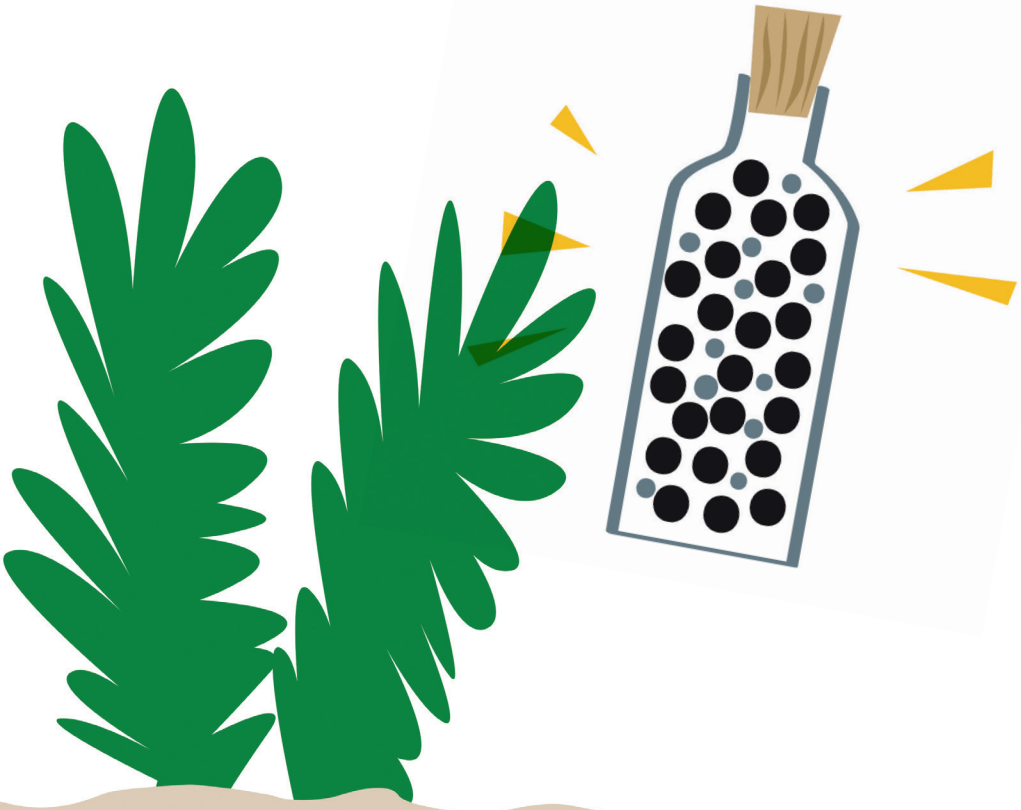
Barakuk

A natural protector for onion seed



Top 20 | Innovations that Benefit Smallholder Farmers

The importance of the Barakuk plant

Onion production provides a source of food and income, for smallholder farmers. The Barakuk plant (*Chamaecrista nicitans*) powder innovation enhances onion crop production. The powder is mixed with onion seed prior to storage. This increases the seed viability and improves germination by 90%, and increases crop yields between 40%–80%. Feedback from farmers in the Bawku West District of Ghana and the district level Ministry of Food and Agriculture highlights the effectiveness of Barakuk plant powder for improving the quality of stored onion seeds.

Mrs. John Akugre (left) with family members loading a farm cart with a bag of onions for market.

The challenges

- Onion seeds are susceptible to storage pests.
- Smallholder farmers are often faced with low viability of stored onion seeds because of insect infestation during storage.
- The cost of chemical pesticides are too high for smallholder farmers.

Description

Farmer Mr. John Akugre experimented with the Barakuk plant for preserving onion seed and also for the treatment of animal wounds. The suitability of the plant for reducing the loss of stored grain due to weevils and other insects was discovered by his father through trial and error. The Barakuk plant has a strong scent that repels insects and effectively protects stored cereals for several months. In 2008, Mr. Akugre modified his father's method by grinding dried Barakuk plant into powder and using it to store onion seeds to address a problem of poor or failed germination. Over 180 farmers have already adopted this innovation for the last 6 years.

How to use Barakuk powder to store onion seeds

Step 1		Collect the Barakuk plant from the wild and dry under shade.
Step 2		Burn the dried Barakuk into char and grind into powder.
Step 3		Measure dried onion seed in a 330 ml (beer size) bottle.
Step 4		Take 2 tablespoons (or 1 match box) of the Barakuk powder and mix thoroughly with onion seeds.
Step 5		Seal the bottle and hang in a thatch roof or other airy space. Store for up to 12 months.

Benefits

- It is easy to use.
- Low cost and uses locally available materials.
- Increases onion yields.
- Healthy seeds produce good onion bulbs which attract higher prices.
- No side-effects recorded so far.

Recommendations

Further scientific investigations are required to standardise and commercialise the product:

- Identify the active ingredient in the Barakuk plant for onion and other crops.
- Develop appropriate packaging, storage and optimum application rates.
- Domesticate the plant and understand its growth requirements and suitability for other locations.
- Evaluate the innovation, assess farmers' perceptions and extent of uptake in the community.

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